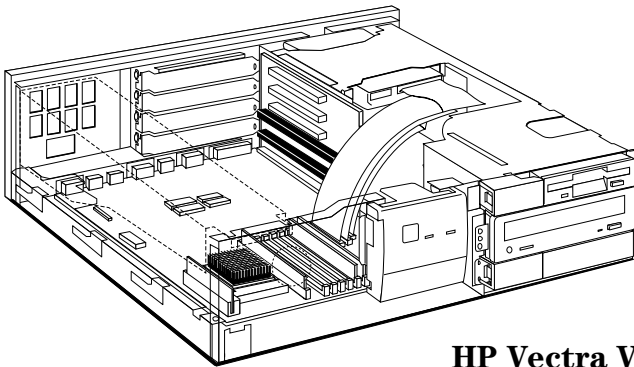
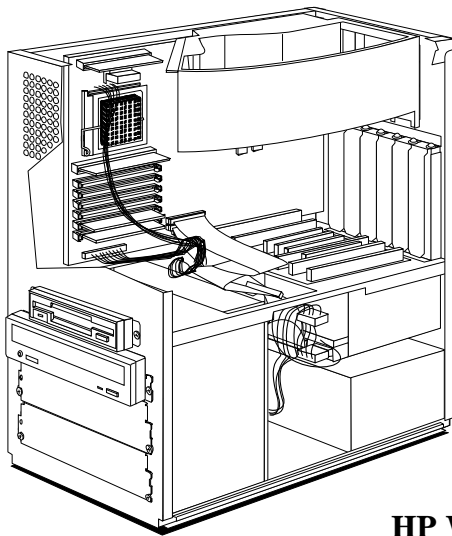

Familiarization Guide



HP Vectra VL PC



HP Vectra VL MT PC

HP Vectra VL

5/xxx Series 5 PC

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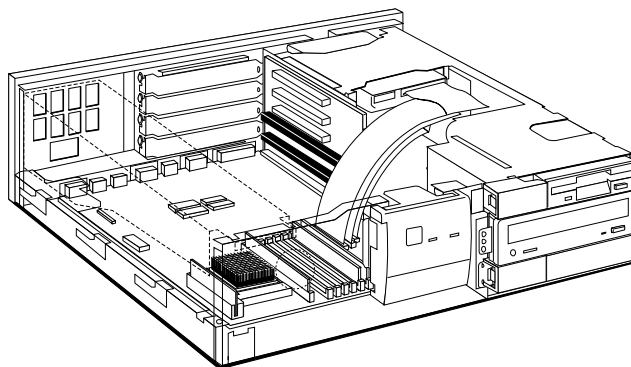
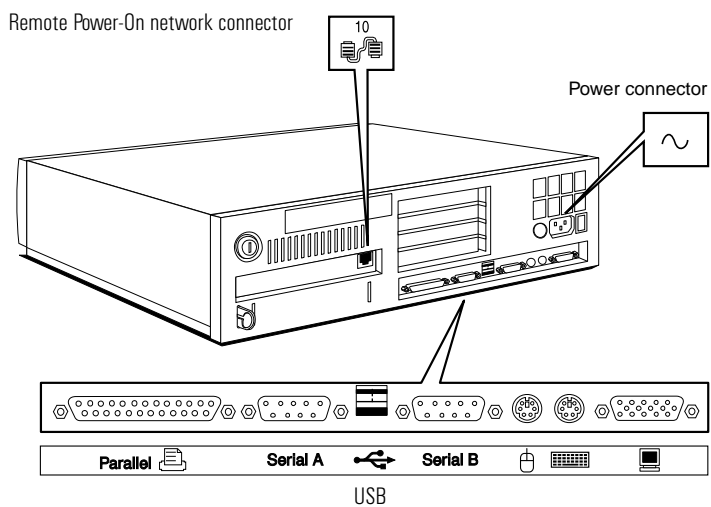
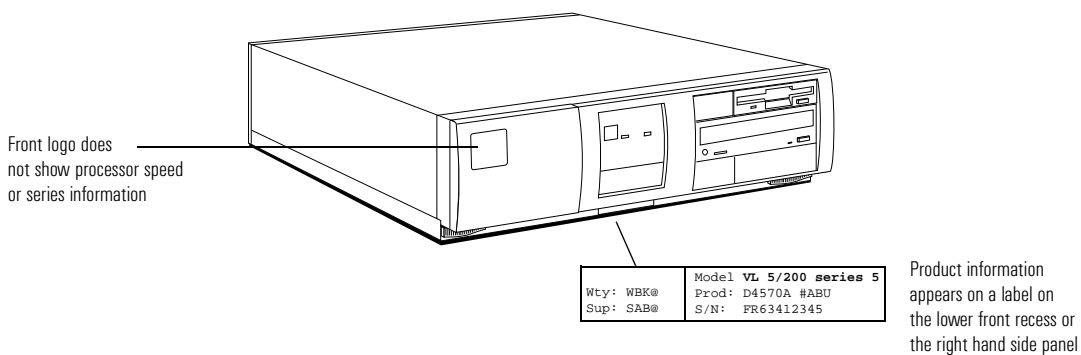
Hewlett-Packard France
Performance Desktop Computing Division
38053 Grenoble Cedex 9
France

HP Vectra VL 5/xxx Series 5 PC

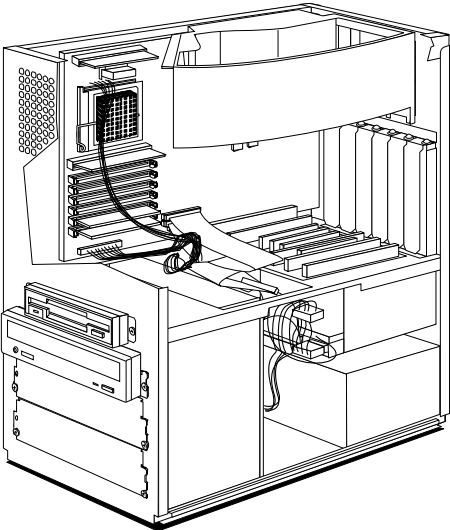
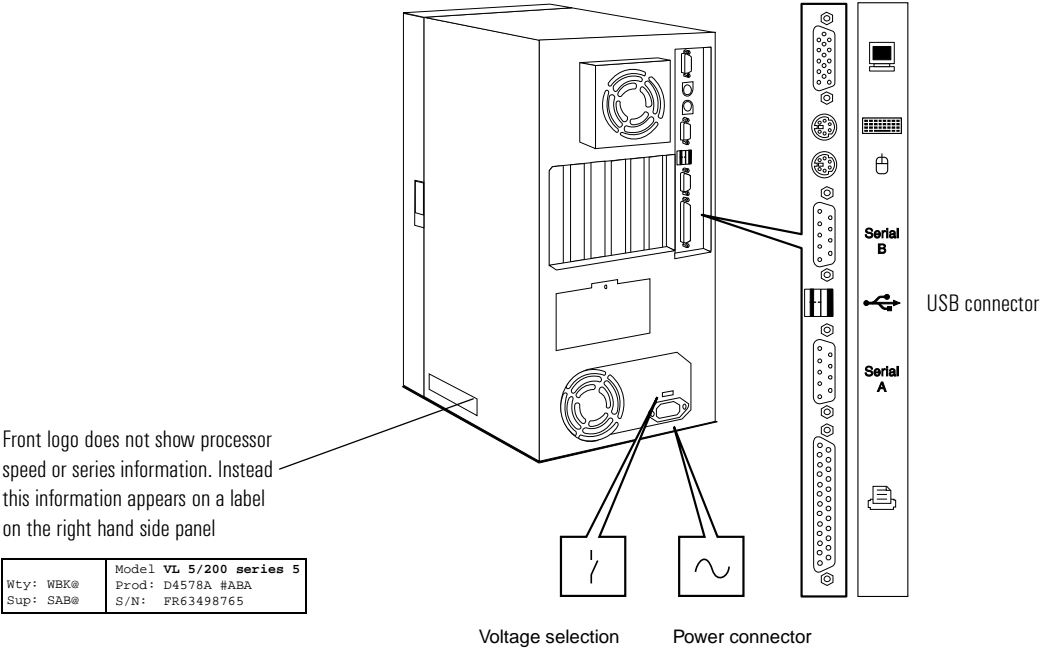
This guide is for experienced technicians who have already completed the HP Vectra PC family training course. It is a self-paced training guide designed to train you to repair the PC. It solely contains information specific to the repair of these PCs. For information on the installation of accessories, see the User's Guide and the Online documents that are supplied with the PC.

HP Vectra VL 5/xxx Series 5 PC
Desktop package

Desktop package



Minitower package



Product Specific Operations

The following sections cover the following subjects:

- Procedure for flashing the System BIOS
- Procedures for checking or changing the system configuration
- Procedures for replacing and installing components and accessories
- Layout of the system board and backplanes
- Layout of the Matrox Millennium graphics controller board, audio controller board, and the Ethernet 10BT PCI board.

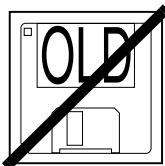
Flashing the Latest Version of the System BIOS

BIOS upgrades can be downloaded, on to flexible diskette, from the HP World Wide Web site. Following the instructions which you are given, you will obtain the flash utility programs, **FLASH.BAT**, **AUTOEXEC.BAT** and **PHLASH.EXE** programs, the BIOS file, **HAxxxx.FUL**, and a file called **pfmha106.bin**, on a bootable flexible diskette.

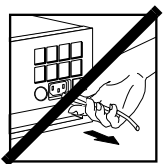
Insert the flexible diskette into drive A. Re-boot the system. Enter the command of the form **FLASH HAxxxx.FUL** (where **xxxx** is replaced by the version number of the BIOS that you have downloaded).

Access HP World Wide Web Site

World-Wide Web URL <http://www.hp.com/go/vectrasupport>



Only use the flash utility programs that are supplied with the BIOS file.



Do not switch off the computer until the System BIOS update has been completed, otherwise irrecoverable damage to the ROM could be incurred.

Checking or Changing the System Configuration

	Viewing or changing the current settings
Processor frequency	Viewable on the summary screen Changeable using the system board switches (SW1-4,7 – see the table on the next page)
Main memory size	Viewable on the summary screen
Cache memory size	Viewable on the summary screen
Video memory size	Viewable on the summary screen
CMOS configuration data	Clearable using the system board switches (SW6 – see the table on the next page)
Keyboard power-on	Can be enabled/disabled using the system board switches (SW9 – see the table on the next page) and within the <i>Setup</i> program
IRQ selection	Viewable and changeable within the <i>Setup</i> program
Mass storage and I/O devices	Parameters viewable on the summary screen and within the BIOS <i>Setup</i> program Enabled/disabled within the <i>Setup</i> program Locked/unlocked within the <i>Setup</i> program or the <i>Lock my HP Vectra PC</i> menu in Windows 95 Control Panel
Video plug and play	Enabled/disabled within the <i>Setup</i> program and within the <i>Display</i> menu in the Windows 95 Control Panel
Passwords	Not viewable Clearable using the system board switches (SW5 – see the table on the next page) Changeable within the <i>Setup</i> program or the <i>Lock my HP Vectra PC</i> menu in the Windows 95 Control Panel
Screen blanking	Enabled/disabled within the <i>Setup</i> program
Screen hiding	Enabled/disabled within the <i>Lock my HP Vectra PC</i> menu in the Windows 95 Control Panel or the <i>Display/Screen Saver</i> menu in the Windows 95 Control Panel
Power management	System standby: Enabled/disabled within the <i>Setup</i> program System suspend: Enabled/disabled within the <i>Power</i> menu in the Windows 95 Control Panel Monitor standby / suspend: Enabled/disabled within the <i>Display/Screen Saver</i> menu in the Windows 95 Control Panel

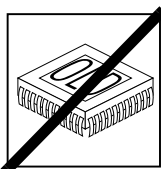
The Setup program is run by typing (F2) whilst the initial Vectra logo is being displayed on the screen, just after power-on or restarting the computer.

The Summary screen is displayed by typing (Esc) whilst the Vectra logo is being displayed.

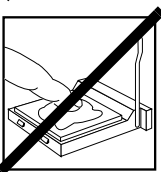
HP Vectra VL 5/xxx Series 5 PC
 Precautions When Replacing the System Board

Switch	Functions of the System Board Switches
1-4,7	Processor frequency (see the information printed on the system board)
5	Password: Open = enabled (default) Closed = disabled / clear User and Administrator passwords
6	Prevents changes to the PC's configuration (in CMOS) in the <i>Setup</i> program: Open = normal (default — you can change the configuration in the <i>Setup</i> program) Closed = clear CMOS (to reload the <i>Setup</i> program defaults and to prohibit changes to the <i>Setup</i> program)
8	Not used
9	Keyboard space-bar power-on: Open = disabled Closed = enabled (default)
10	Product identification: Open = normal operation (default) Closed = clear the product identification field in the CMOS memory

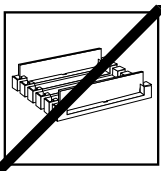
Precautions When Replacing the System Board



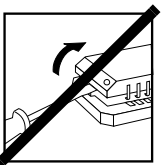
After replacing the system board, flash the System ROM with the latest version of the System BIOS. Then reconfigure the PC using the *Setup* program.



Do not remove the thermal interface material between the processor and the heat-sink. To do so would affect the cooling of the processor. This interface material may stick the processor and heat-sink together. Do not attempt to separate them. Manipulate them as a single unit.



Do not reinstall the memory modules haphazardly. There are three memory banks, which can be filled in any order, each comprising a pair of sockets. Different banks can contain memory module pairs of different sizes or types. However, in each bank which is occupied, you must install a pair of identical modules.



Always use the specific extraction tool (PLCC IC Extraction, part number 5041-2553) when removing the video memory upgrade chips.

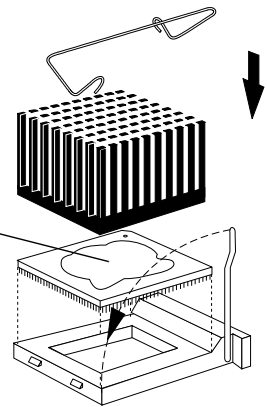
Precautions When Replacing the Power Supply



With the minitower package, always check the position of the voltage selection switch.

Replacing the Processor Chip

If any thermal interface material, such as aluminium foil or silicone, is supplied with the heat-sink or the processor chip, place it carefully on the top of the processor before installing the heat-sink.

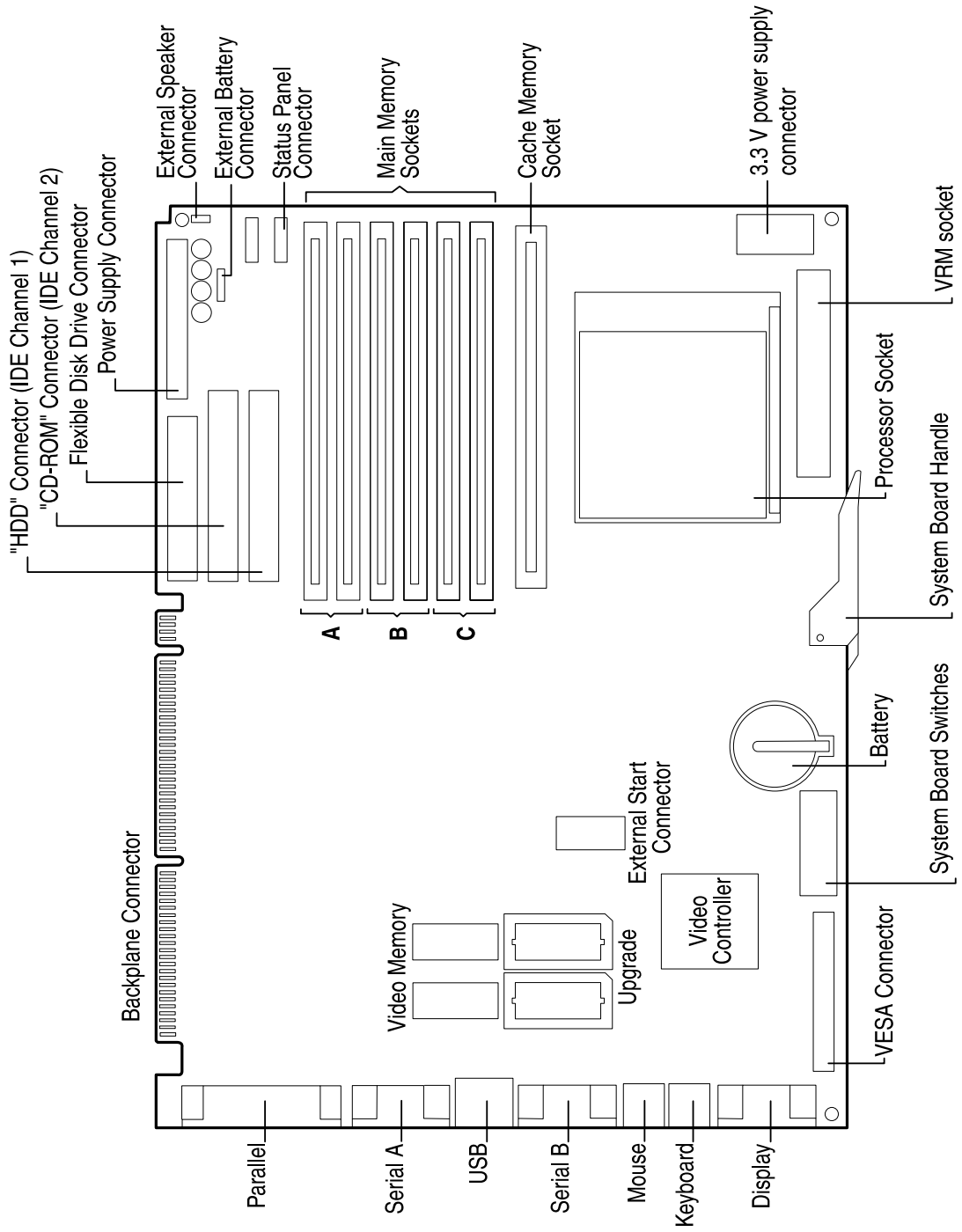


System Board

The system board layout is shown on the next page.

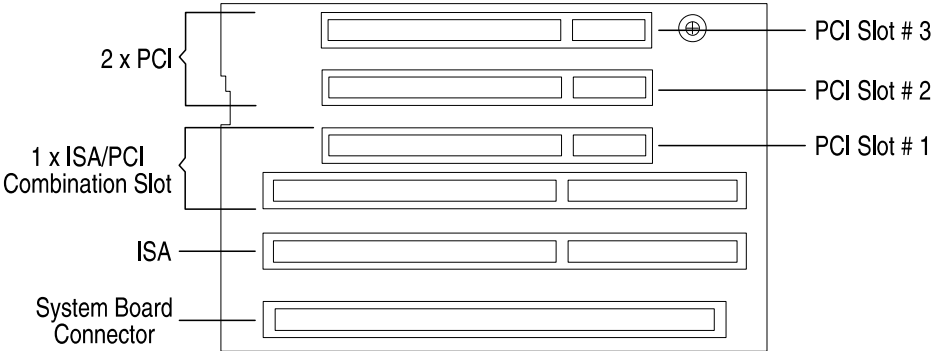
Most desktop and minitower models are supplied with an *S3 Trio 64 V2* video controller integrated on the system board. Models that are supplied with a Matrox graphics controller on a PCI board do not have an integrated graphics controller.

HP Vectra VL 5/xxx Series 5 PC
System Board

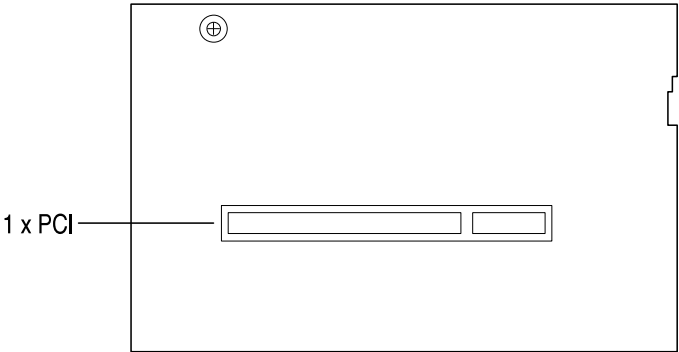


Backplanes

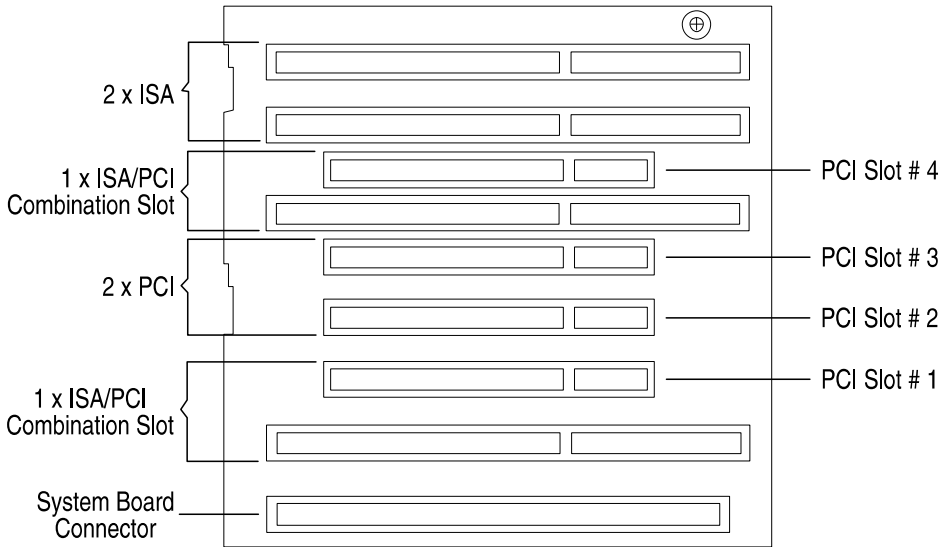
VL5 Desktop (front view)



VL5 Desktop (rear view)
(network models only)

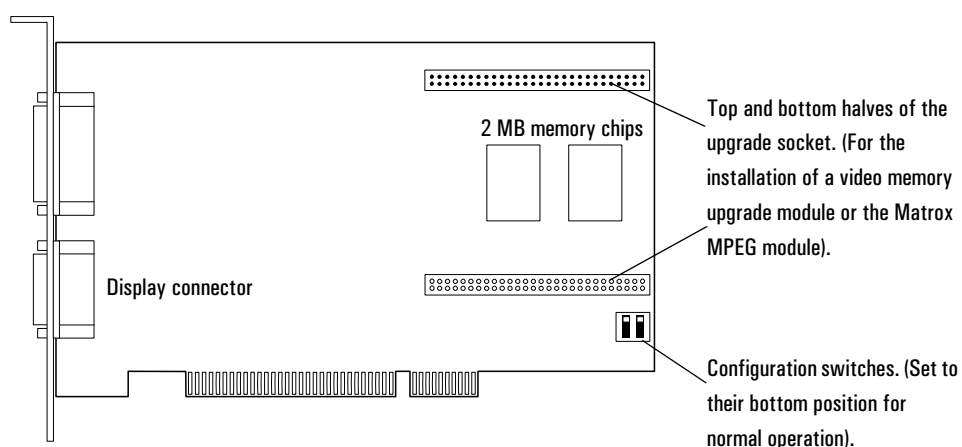


VL5 Minitower (top view)

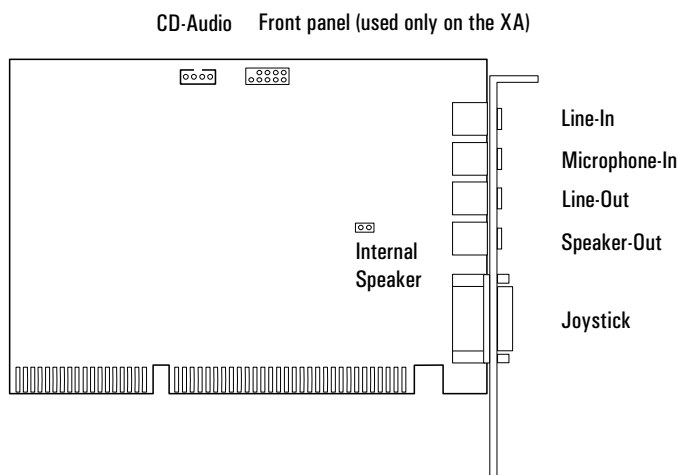


Accessory Boards that are Supplied with the PC

Matrox MGA Millennium Video Controller Board This PCI board is Plug-and-Play. It is supplied with the correct drivers, and does not require specific configuration when installed in this PC.

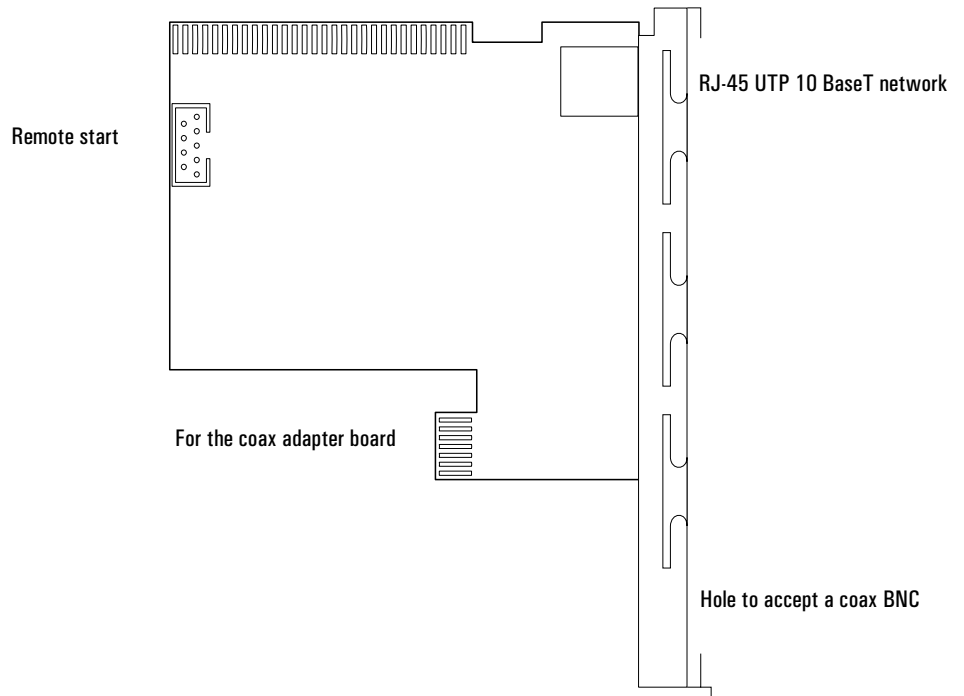


Audio Controller Board Although this is an ISA board, it is Plug-and-Play. It is supplied with the correct drivers, and does not require specific configuration when installed in this PC.



**Enhanced Ethernet
Network Board**

The Enhanced Ethernet Network board, depicted below, is a PCI board, and so does not require specific configuration when installed in the PC.



Complete the Questionnaire to Check Your Understanding

Draw a circle around each letter that corresponds with a correct answer.
(There may be more than one correct answer to each question).

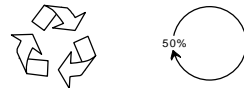
- 1 What do you need to do to obtain the latest System BIOS?
 - a Order a BIOS diskette.
 - b Connect to the World Wide Web URL, at **http://www.hp.com/go/vectra/support**.
 - c Connect to **ftp-boi.external.hp.com**, and type **anonymous** as the login name.
 - d Dial **+1(208).344-1691**, and connect with a 2400 baud modem.
- 2 What would you do to fix an IRQ conflict?
 - a Look at the jumper and switch settings on each accessory board.
 - b Run the BIOS *Setup* program, and select the **configuration** menu.
- 3 What would you do to enable video plug and play?
 - a Nothing, it enables itself automatically on power-on.
 - b Run the BIOS *Setup* program, and select the **configuration** menu, and the **video** sub-menu.
 - c Go to the Windows 95 Control panel, and select the **Display/Screen-saver** menu.
 - d Go to the Windows 95 Control panel, and select the **Display/Setting/AdvancedProperties/Monitor** menu.
- 4 What would you do to check the size of the installed cache memory?
 - a Run the *Setup* program by typing **(F2)** after restarting the PC.
 - b Look at the summary screen by typing **(Esc)** after restarting the PC.
 - c Go to the Windows 95 Control panel, and select the **General** tab on the **System** menu.

Answers and Explanations

- 1 What do you need to do to obtain the latest System BIOS?
 - b Connect to the World Wide Web URL, at **http://www.hp.com/go/vectra/support**.

The World Wide Web site is kept updated with the latest version.
- 2 What would you do to fix an IRQ conflict?
 - a Look at the jumper and switch settings on each accessory board.
 - b Run the BIOS *Setup* program, and select the **configuration** menu.
- 3 What would you do to enable video plug and play?
 - b Run the BIOS *Setup* program, and select the **configuration** menu, and the **video** sub-menu.
 - d Go to the Windows 95 Control panel, and select the **Display/Setting/AdvancedProperties/Monitor** menu.

Video plug-and-play is normally enabled, by default. However, if it has been disabled in the *Setup* program, it must be enabled from there, too. It might be necessary to switch the display off, and the back on.
- 4 What would you do to check the size of the installed cache memory?
 - b Look at the summary screen by typing **Esc** after restarting the PC.



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